

Test Report

No.: SZXEC23003238501

Date: Dec 28, 2023

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Client Name: SHENZHEN ASAHI ELECTRONIC MATERIALS CO., LTD

Client Address: 101.1F, 2F, BLDG.7, FOUR OYSTERS WESTERN INDUSTRIAL ZONE, SHAJING STREET, BAO'AN DISTRICT, SHENZHEN.

Sample Name: Lead-free Solder Bar

Model No.: GM2 900

Client Ref. Information: GM2 980、GM2 960、GM2 910、GM2 903、
GM2 930、GM2 990、GM2 905、GM2 912、
GM2 915、GM2 1000、GM2 1000C

The above sample(s) and information were provided by the client.

SGS Job No.: SZP23-033347

Sample Receiving Date: Dec 22, 2023

Testing Period: Dec 22, 2023 ~ Dec 28, 2023

Test Requested: Select test(s) as requested by the client.

Test Method(s): Please refer to next page(s).

Test Result(s): Please refer to next page(s).

| Test Requirement | Conclusion |
|--|------------|
| EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU- Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP) | Pass |

Signed for and on behalf of
SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

Ford

Ford Shi
Approved Signatory

scan to see the report



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SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch Testing Laboratory

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Test Result(s):

Test Part Description:

| SN ID | Sample No. | SGS Sample ID | Description |
|-------|------------|-------------------------|-------------------|
| SN1 | A1 | SZX23-0032385-0001.C001 | Silver-gray metal |

Remarks:

- (1) 1 mg/kg = 1 ppm = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected (< MDL)
- (4) "-" = Not Regulated

EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU- Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)

Test Method: With reference to IEC 62321-4:2013+AMD1:2017, IEC 62321-5:2013, IEC 62321-7-1:2015, IEC 62321-6:2015 and IEC62321-8:2017, analysis was performed by ICP-OES, UV-Vis and GC-MS.

| Test Item(s) | Limit | Unit(s) | MDL | A1 |
|------------------------------------|-------|---------|------|----|
| Cadmium(Cd) | 100 | mg/kg | 2 | ND |
| Lead(Pb) | 1000 | mg/kg | 2 | 6 |
| Mercury(Hg) | 1000 | mg/kg | 2 | ND |
| Hexavalent Chromium (Cr(VI)) ▼ | - | µg/cm² | 0.10 | ND |
| Polybromobiphenyl (PBBs) | 1000 | mg/kg | - | ND |
| Monobromobiphenyl (MonoBB) | - | mg/kg | 5 | ND |
| Dibromobiphenyl (DiBB) | - | mg/kg | 5 | ND |
| Tribromobiphenyl (TriBB) | - | mg/kg | 5 | ND |
| Tetrabromobiphenyl (TetraBB) | - | mg/kg | 5 | ND |
| Pentabromobiphenyl (PentaBB) | - | mg/kg | 5 | ND |
| Hexabromobiphenyl (HexaBB) | - | mg/kg | 5 | ND |
| Heptabromobiphenyl (HeptaBB) | - | mg/kg | 5 | ND |
| Octabromobiphenyl (OctaBB) | - | mg/kg | 5 | ND |
| Nonabromobiphenyl (NonaBB) | - | mg/kg | 5 | ND |
| Decabromobiphenyl (DecaBB) | - | mg/kg | 5 | ND |
| Polybromodiphenyl ether(PBDEs) | 1000 | mg/kg | - | ND |
| Monobromodiphenylether (MonoBDE) | - | mg/kg | 5 | ND |
| Dibromodiphenylether (DiBDE) | - | mg/kg | 5 | ND |
| Tribromodiphenylether (TriBDE) | - | mg/kg | 5 | ND |
| Tetrabromodiphenylether (TetraBDE) | - | mg/kg | 5 | ND |
| Pentabromodiphenylether (PentaBDE) | - | mg/kg | 5 | ND |
| Hexabromodiphenylether (HexaBDE) | - | mg/kg | 5 | ND |
| Heptabromodiphenylether (HeptaBDE) | - | mg/kg | 5 | ND |
| Octabromodiphenylether (OctaBDE) | - | mg/kg | 5 | ND |
| Nonabromodiphenylether (NonaBDE) | - | mg/kg | 5 | ND |
| Decabromodiphenylether (DecaBDE) | - | mg/kg | 5 | ND |
| Dibutyl Phthalate(DBP) | 1000 | mg/kg | 50 | ND |
| Butyl Benzyl Phthalate(BBP) | 1000 | mg/kg | 50 | ND |



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Shenzhen Branch Testing Center Chemical Laboratory

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| Test Item(s) | Limit | Unit(s) | MDL | A1 |
|------------------------------------|-------|---------|-----|----|
| Bis-(2-ethylhexyl) Phthalate(DEHP) | 1000 | mg/kg | 50 | ND |
| Diisobutyl Phthalate(DIBP) | 1000 | mg/kg | 50 | ND |

Notes:

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
 - (2) IEC 62321 series is equivalent to EN 62321 series.
 - (3) ▼ = a. The sample is positive for Cr(VI) if the Cr(VI) concentration is greater than 0.13 µg/cm². The sample coating is considered to contain Cr(VI)
 - b. The sample is negative for Cr(VI) if Cr(VI) is ND (concentration less than 0.10 µg/cm²). The coating is considered a non-Cr(VI) based coating
 - c. The result between 0.10 µg/cm² and 0.13 µg/cm² is considered to be inconclusive-unavoidable coating variations may influence the determination.
- Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.
- Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule (w=0) stated in ILAC-G8:09/2019.



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Elements Testing Flow Chart

These samples were dissolved totally by pre-conditioning method according to below flow chart.



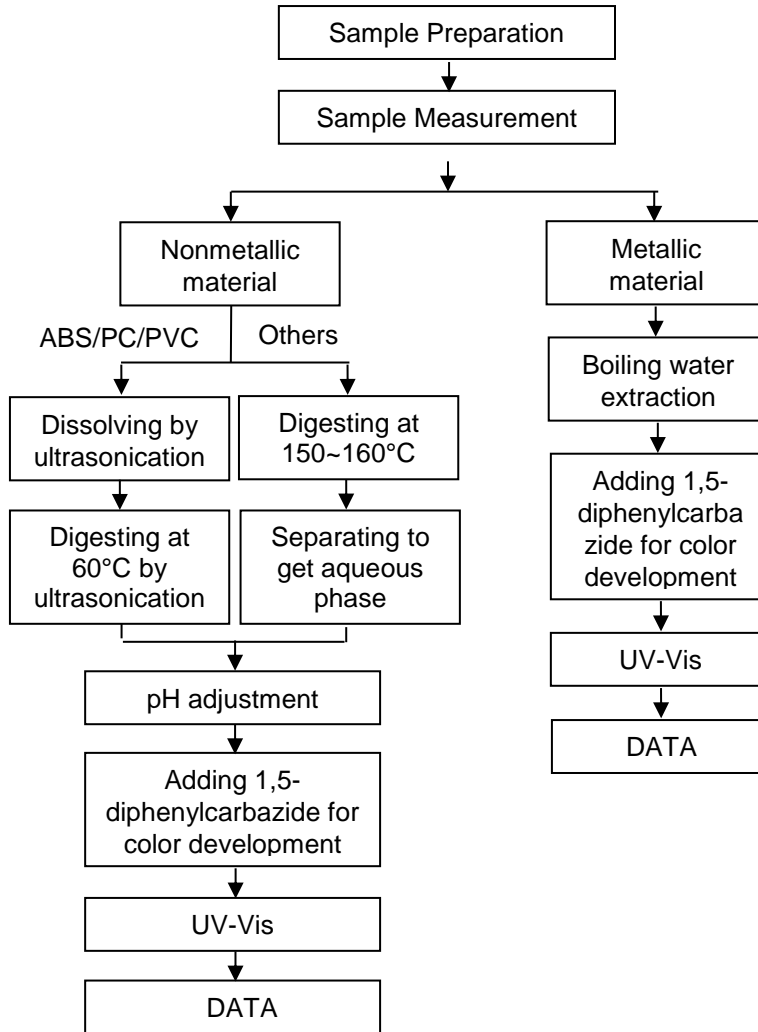
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Hexavalent Chromium (Cr(VI)) Testing Flow Chart



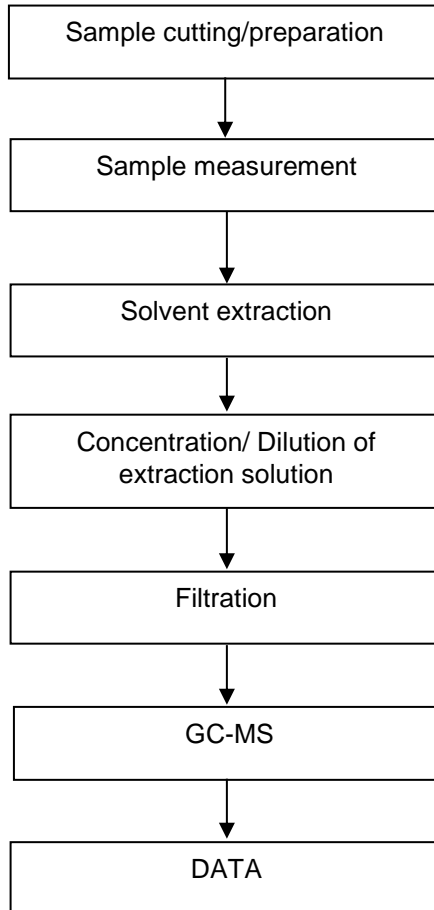
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PBBs/PBDEs Testing Flow Chart



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Phthalates Testing Flow Chart



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Sample Photo:



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